

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/016681

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-17 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 4-12 as originally filed/furnished
- nos.* 1-3 as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets fig. 1-2 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-12</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims _____	YES
		Claims <u>1-12</u>	NO
	Industrial applicability (IA)	Claims <u>1-12</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
	<p>Document 1: JP 2002-194362 A (Nijieda Kabushiki Kaisha), 10 July 2002</p> <p>Document 2: JP 2002-364816 A (Kubota Corp.), 18 December 2002</p> <p>Document 3: JP 2002-322479 A (Kubota Corp.), 08 November 2002</p> <p>Document 4: JP 2001-220120 A (NKK Sogo Sekkei Kabushiki Kaisha), 14 August 2001</p> <p>Document 5: JP 2001-19970 A (Tatsuya MARUKAWA et al.), 23 January 2001</p> <p>Documents 1 to 5 are cited in the international search report.</p> <p>1. Claims 1 and 4 to 12</p> <p>The inventions set forth in claims 1 and 4 to 12 do not involve an inventive step in the light of documents 1, 2 and 5.</p> <p>Document 1 discloses a carbonization device wherein the superheated steam from the superheated steam supply source is brought into contact with an object to be treated so as to carbonize said object to be treated; therein, document 1 also indicates that said device is</p>		

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equipped with a gas treatment device (i.e., a deodorization device) for burning the gas that is discharged from the carbonization furnace under high temperature conditions.

Meanwhile, document 2 discloses a device for subjecting organic waste to a heat treatment, which is equipped with a waste heat boiler that employs the exhaust gas from the deodorization furnace; therein, document 2 further indicates that said device supplies the steam that is generated by the waste heat boiler to the carbonization furnace.

Such being the case, it would have been easy to conceive of providing a waste heat boiler at a location downstream from the deodorization device of the carbonization device disclosed in document 1 in order to use the waste heat more effectively. At that time, it would be a natural design change to configure so that the steam generated by the waste heat boiler is supplied to the carbonization furnace via the superheated steam supply source instead of being supplied directly to the carbonization furnace.

Furthermore, configurations wherein a gas is supplied to a cylindrical device from a tangential direction are well known, as disclosed in document 5 for example.

2. Claims 2 and 4 to 12

The inventions set forth in claims 2 and 4 to 12 do not involve an inventive step in the light of documents 1 to 3 and 5.

Document 3 discloses a device for subjecting waste to a gasification treatment, which is equipped with a

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dryer that is disposed at a location upstream from the waste pyrolysis furnace; therein, document 3 also indicates that the exhaust gas from the waste pyrolysis furnace is used as the heat source for the dryer.

3. Claims 3 to 12

The inventions set forth in claims 3 to 12 do not involve an inventive step in the light of documents 1 to 5.

Document 4 discloses a device for producing activated carbon from waste, which is equipped with an activation furnace that is disposed at a location downstream from the carbonization furnace; therein, document 4 also indicates that the exhaust gas from the activation furnace is used in the carbonization furnace.